National Airspace
Integrated Logistics Support Plan
(ILSP)
For The DENRO
Small Tower Voice Switch
(STVS)

ILSP NO. 96-700-002
Revision: 005
August 7, 1998

<u>APPROVAL PAGE</u>

This Integrated Logistics Support Plan (ILSP) for the Small Tower Voice Switch (STVS) has been coordinated with all members of the Airways Facilities Requirements Management Team (AFRMT). All applicable AFRMT comments have been incorporated.

This ILSP presents the procedures necessary to accomplish the Integrated Logistics Support (ILS) requirements for the STVS.

The Associate Product Lead (APL) for Logistics is the point of contact for all ILS-related matters of this project.

Approval of this document in June 1993 constituted the baseline for the ILSP. Revisions to this ILSP will be distributed to all Airway Facilities Requirements Management Team (AFRMT) members.

Recommend Approval: _____

G. Clark, ARN-200.3
Associate Product Lead (APL) for
Logistics,

Voice Switching and Recording Product Line

Date: _____

Approved: _____

S. Dash, AND-320
Product Team Leader, Integrated Product
Team (IPT) for Voice Switching and
Recording Product Line

Date: _____

TABLE OF CONTENTS

CHAPTER 1.0   INTRODUCTION

_____
___

1.1   SCOPE

This Integrated Logistics Support Plan (ILSP) was developed to
provide guidance for integrated logistics support planning and
execution of support requirements for the Small Tower Voice
Switch (STVS). The STVS project is within the Terminal Voice
Switch Replacement (TVSR) Program. This ILSP will be updated as
required.

This document describes the integrated logistics support planned
for the STVS. This document provides guidance for the overall
management, maintenance, supply support and personnel training
requirements for the STVS.

This ILSP was prepared in accordance with Federal Aviation
Administration (FAA) policies, specifications, orders and
standards. A list of applicable policies, standards and orders
are presented in Appendix A.

1.2   SYSTEM DESCRIPTION

The Small Tower Voice Switch (STVS) is an integrated voice
switching system installed in Visual Flight Rules (VFR) air
traffic control towers (ATCT) to support ATCT operations by
providing access to both air-to-ground (A/G) and ground-to-
ground (G/G) communications resources. In the standard
configuration, the STVS provides four (4) operational positions
with access to twelve (12) separate external interfaces. Each
operational position provides access to six (6) air-to-ground
(A/G) frequencies and provides Direct Access (DA) capability for
access to eight (8) ground-to-ground (G/G) circuits.

1.2.1 FA - Type Numbers

The following is a list of STVS identifiers:

        - FA-13900   Small Tower Voice Switch – standard single
                        rack
        - FA-13900A   Small Tower Voice Switch – Linked System
                        w/standard panels
        - FA-13900B   Small Tower Voice Switch – Linked System
                        w/modular panels

1.3   SYSTEM OPERATION CONCEPT - LINKED STVS

Engineering Change Proposal (ECP-94-060), System Linking
Package, for the STVS is an enhancement that allows linking of
STVS systems in two or three switch configurations to provide
greater flexibility in system sizing and optimum configuration
capability. With two (2) linked systems, the STVS provides
eight (8) operational positions with access to twenty-four (24)
separate external interfaces. The maximum size configuration of
three (3) linked systems provides twelve (12) operator positions
with access to twenty-eight (28) separate external interfaces.
The design concept of ECP-94E-060 was proposed by DENRO in June
1994 in response to the FAA's request for a design solution that
can satisfy near-term voice switch requirements for sites with
system sizing requirements beyond the standard STVS
configuration.

In the linked STVS configuration, one of two (2) types of
operator position equipment will be utilized depending on site
requirements, ECP-94E-063 and ECP-94E-064. ECP-94E-063,
Expanded STVS position, consists of the basic STVS Operator
Position Panel with up to two STVS expansion modules. The
expansion module is derived from the existing STVS position and
has the same form, fit, and function as the basic STVS position.
With one expansion module, the expanded STVS position provides a
total of 12 radio selectors and 17 Direct Access selectors.
Adding a second expansion module allows access for up to 18
radios and 26 Direct Access functions. For sites that do not
have console space to support fixed 19" rack mount operator
positions, ECP-94E-064, Module STVS Position will be used. The
modular STVS position consists of pre-existing Rapid Deployment
Voice Switch (RDVS)- DENRO model 400 operator position
equipment. The modular position equipment permits the FAA to
increase the Direct Access and radio selectors available to the
controller and allows operator position equipment installation
in other than a fixed panel configuration.

Deployment of linked STVS systems will have minimal impact on
Air Traffic Control Tower personnel. The proposed linking
affects only the central equipment racks and is transparent to
air traffic controllers. The linked STVS systems will improve
the efficiency and productivity of Air Traffic (AT) personnel by
providing fully integrated operator-to-operator (intercom),
operator-to-pilot (radio), and operator-to-ground/ground circuit
(telephone) communications. Linked STVS systems provide greater
and improved access to a number of features integrated into the
system that facilitate A/G and G/G voice communications.

No increase in workload for Airway Facilities (AF) personnel is anticipated with the deployment of linked STVS systems. The linked STVS has several design capabilities that facilitate diagnostics and maintenance of the system. Fault localizing

capabilities allow trained maintenance personnel to localize
failures to a position, frequency, trunk/circuit interface or
other major component. The system continuously monitors all
telephone, radio, and operator interfaces to detect processor
failures and reports a message to the maintenance workstation in
the event that a failure is detected. A Maintenance Workstation
is provided with each system to provide the capability of
running a number of program functions, such as displaying
current system status, continuously checking for system faults,
sounding an audible alarm should faults occur, etc. The
maintenance workstation may be used to reconfigure the system
and to reassign position programmable keys. In addition, a
Remote Maintenance Alarm Panel, which can be located in the
tower cab, provides a visual and audible indication of the state
of each relay circuit.

1.4   STUDIES AND ANALYSES

Market surveys and system analyses were conducted in accordance
with FAA standards and requirements prior to the issuing of this
contract at this point, no additional studies or analyses are
planned.

1.5   STVS INITIAL MILESTONES

The following table is composed of STVS program milestones that
have or will occur.

Table 1.5-1 STVS Initial Milestones

EVENT	SCHEDULE
Solicitation	August 1991
Contract Award	October 1992
Logistics/Training Guidance Conference	December 1992
System Review (SR)	January 1993
Factory Acceptance Test (FAT)	May 1993
Provisioning Conference	December 1993
First Production System Delivery	December 1993
In-Service Decision (ISD)	September 1993
Air Traffic (AT) Training Start	September 1993
Airway Facilities (AF) Maintenance Training Start	September 1993
First Operational Readiness Date	September 1993
Last System Delivery	April 1998

1.6   STVS INTERFACE REQUIREMENTS AND CAPABILITIES

The STVS equipment has the following external interface
requirements and capabilities:

1.   A/G communication;
2.   G/G (interphone) communications;
3.   Voice (Legal) Recorder;

4. Administrative Telephone System (ATS). The ATS provides support to air traffic control operations by providing an internal terminal communications system for maintenance and administration, also serving as a backup system in the event of failure of the operational interphone system. In replacing the electro-mechanical switches, the ATS capability may be displaced. The Operational Support Telephone System (OSTS) has been procured to replace the displaced ATS capability.

Operation Support Telephone System (OSTS)

Details concerning the support for the OSTS are attached to this ILSP at Appendix E.

Voice Switch By Pass (VSBP)

Details concerning the support for the VSBP are attached to this ILSP at Appendix F.

1.7 ELEMENT'S OF LOGISTICS SUPPORT

Integrated Logistics Support (ILS) is an interrelated and unified approach to the managerial and technical activities that support the National Airspace System (NAS). The analyses associated with ILS influences the system design to optimize system reliability and life-cycle cost. Through this program, support requirements are identified and acquired.

To focus management attention on key logistics support issues, FAA Order 1800.58A, "National Airspace Integrated Logistics Support (ILS) Policy", identifies eight logistics support elements that are required to complete the integrated logistics support task. They are:

1. Maintenance Planning;
2. Supply Support;
3. Support Equipment;
4. Training, Training Support and Personnel Skills;
5. Direct-Work Maintenance Staffing;
6. Maintenance Support Facilities;
7. Packaging, Handling, Storage, and Transportation;
8. Technical Data.

The logistics support requirements generated in response to each of these elements are based upon the existing maintenance and training support available for the STVS fielded system. These logistics support elements are discussed in subsequent sections of this ILSP.

STVS ILSP, REV. 004, 04/07/97

1.8 CONTRACT INFORMATION

The STVS contract was an open competitive procurement, for a Non- Developmental Item (NDI) small switch.

1.   The STVS contract was awarded to DENRO, Inc., on October 30, 1992.

2.   The contract is a firm fixed price contract. The basic contract period is three years. During this period, the contract is an indefinite delivery, indefinite quantity contract. During years four to ten, a renewable annual requirements contract will be in effect;

3.   A total of 241 systems ~~will be~~ have been procured with this contract. The FAA facilities have 198 systems installed and the Department of Defense (DOD) has 4~~2~~3 systems installed. Several FAA sites require 2 or 3 linked STVS systems. The current delivery schedule to include linked systems is provided at Appendix D.

4.   First delivery for testing was June 1993 to the FAA Technical Center. First Operational site delivery was Panama City, FL, June 1993 and commissioned February 3, 1994.

5.   The contract is administered through the Defense Information Technology Contracting Office (DITCO).

6.   The STVS life cycle expectation is 10 years.

CHAPTER 2.0   LOGISTICS MANAGEMENT

_____
___

This section describes the organization structure and responsibilities between the Government and contractor for planning and implementing logistics support for the STVS.

2.1   ILS PROGRAM OBJECTIVES

2.2   AIRWAYS FACILITIES REQUIREMENTS MANAGEMENT TEAM (AFRMT)

The Associated Program Lead (APL) for Logistics for the STVS project is responsible for establishing an AFRMT to support the project. The AFRMT provides guidance, coordination, and support for all logistics requirements of the STVS life cycle. AFRMT meetings as required, are convened at the request of the chairperson. Guidance on responsibilities of the AFRMT is contained in FAA Order 1800.58A.

The AFRMT membership and offices that will support this program are listed in Table 2.1-1.

TABLE 2.1-1, AFRMT MEMBERSHIP

POSITION	OFFICE
Chairperson, APL for Logistics	ARN-200, Associate Product Lead (APL) for Logistics
Co-Chairperson, IPT Lead	AND-320, Product Team Leader, Integrated Product Team (IPT) for Voice Switching and Recording Product Line
Member	AOS-100, In-Service Engineering Division
Member	ARN-200, Air Traffic/Airways Facilities Requirements
Member	AFZ-100, Airway Facilities Training Division
Member	ATX-100, Air Traffic Training Division
Member	AFZ-200, Work Force Planning and Development Division
Member	AOS-510, Communications Systems Engineering Branch

Member	AML-200, ILS Management Division
Member	AML-461, Engineering and Production Division
Member	AML-640, Supply Management Division
Member	AMA-410, Communications Equipment Section
Member	AMA-551, Terminal Instructional Design Section
Member	Regional Representatives
Member	ASD-140, System Engineering Management
Member	ANS-700, Associate Program Lead for National Airspace Implementation (APLNI)
Member	ARN-200/ National Airspace System (NAS) Implementation Support Contractor (NISC)
Support	

2.3   GOVERNMENT ORGANIZATION STRUCTURE AND RESPONSIBILITIES

The following presents the FAA activities responsible for providing management and technical support for the STVS project.

ARN-200 - The Communications/Data Link Systems and Navigation Division manages the life-cycle support program for NAS communications systems. ARN-200 coordinates the disposal of displaced systems and equipment for Airway Facilities (AF), supports the ILS process, oversees the configuration management processes, and monitors depot level spares and repair parts. ARN-200 appoints an Associate Product Lead (APL) for Logistics and a support team to direct and manage the logistics requirements of the product.

ARN-200/APL for Logistics - The APL for Logistics reviews all ILS requirements for each product and assists the IPT Lead and coordinates with product and AFRMT personnel to ensure the timely acquisition, development, and accomplishment of logistics and training requirements.

ARN-200/Airways Facilities Requirements - The Technical Requirements Specialist identifies maintenance requirements, develops disposal plans for existing and planned communications products and advises the IPT Lead and APL for Logistics on AF requirements.

ARN-200/NISC - The logistics and training analysts from the NISC contractors support the APL for Logistics and assist in the development, coordination, and implementation of logistics support, and assists in the identification of training requirements and development of training plans and schedules.

AND-320/IPT Lead - The Integrated Product Team for Voice Switching and Recording Program provides management direction for the STVS project. The IPT Lead oversees the acquisition, design, development, testing, and commissioning of the product. The IPT Lead is also responsible for the budget, contract, and all activities required to acquire and support the product through deployment.

AND-320/COTR - The STVS contracting officer's technical representative/product lead (COTR/PL) ensures all engineering, testing, logistics, and training requirements are identified in and accomplished in accordance with the STVS contract. The COTR/ PL advises the IPT Lead on all STVS contract requirements.

AOS-100 - The In-Service Engineering Division is responsible for managing contracts for on-site and depot maintenance.

AFZ-100 - The Airway Facilities (AF) Training Division ensures maintenance training requirements for the STVS product are satisfied.

AFZ-200 - Work Force Planning and Development Division provides an analysis of direct works staffing requirements and issues.

ATX-100 - Air Traffic (AT) Training Division is responsible for validation of AT training requirements.

AMA-410 - The Communications Equipment Section is responsible for technical evaluation of AF training developed and conducted by the contractor. It also has the responsibility for developing and conducting attrition training.

AMA-551 - The Terminal Instructional Design Section is responsible for technical evaluation of training which is developed and conducted by the contractor. It also has responsibility for developing attrition training materials.

AOS-510 - The Air/Ground Systems Team, Communications Systems Engineering Branch, provides direct engineering support for field facilities. This includes: hardware and software maintenance support; updating and distributing directives and technical documentation; and developing, evaluating, and implementing in-service improvements and modifications for NAS

systems as assigned by FAA Order 1320.48, Engineering Field
Support Sector Maintenance Program Procedures.

AML-200 - The Manager, Integrated Products Management Division,
is the Federal Aviation Administration Logistics Center (FAALC)
Lead representative on the AFRMT. AML-200 coordinates depot-
level maintenance planning, supply support, staffing, support
and test equipment, maintenance support facilities, and training
requirements needed to support the STVS project. Provides AND-
320 Facilities and Engineering (F&E) budget estimates for
initial depot (wholesale) spares, contractor depot maintenance
support, and depot support, and test equipment. Identifies the
Logistic Support Analysis/ Logistics Support Analysis Record
(LSA/LSAR) data requirements, and provides consolidated FAALC
inputs to the ILSP, statement of work (SOW), contract data
requirements list (CDRL), contract line items numbers (CLINs).

ASU-220 - The Quality Assurance Division monitors the DENRO
Corporation's quality assurance program and all deliverables,
including the Logistics Support Analysis/Logistics Support
Analysis Record (LSA/LSAR), hardware, software, technical
documentation, Engineering Data for Provisioning (EDFP), and
test equipment/adapters for compliance with the STVS contract.

AXX-400/500 - AF/AT individuals from the regions provide points
of contact for the identification and implementation of
logistics and training requirements, and life cycle support of
the STVS product.

ASD-140 - The System Engineering Management representative
ensures that system software and hardware configuration
attributes are in accordance with system specifications and FAA
regulations.

ANS-700 – The APL for NAS Implementation (APLNI) provides
management direction and guidance for the implementation of the
STVS project. The APLNI manages the development of the Product
Implementation Plan (PIP), the Generic Site Implementation Plan
(GSIP), and as required, assists the regions in the development
of a Site Implementation Plan (SIP). The APLNI provides product
information to the field to promote early identification and
resolution of issues that may impact delivery and implementation
of voice switch products into the NAS.

2.4   LOGISTICS SUPPORT ANALYSIS (LSA)

This section outlines the LSA requirements for the STVS
including the Logistics Support Analysis Record (LSAR)
requirements.

2.4.1 <u>LSA Contractor Responsibilities</u>.

DENRO established an LSA program in accordance with procedures outlined in MIL-STD-1388-1A and MIL-STD-1388-2B, as modified by the Logistics Support Analysis Record Data Selection Sheet (DD Form 1949-1 and Provisioning Requirements Statement (PRS) DD Form 1949-2).

DENRO has established internal procedures for progressive verification of adequacy and technical accuracy of the LSAR documentation.

2.4.2 <u>LSA Tasks and Subtasks</u>.

The LSA tasks and subtasks performed are listed in Table 2.4.2-1.

Table 2.4.2-1 LSA Tasks and Subtasks

Task	Title	Subtasks
301	Functional Requirement Identification	301.2.1
303	Evaluation of Alternatives and Trade-off Analysis	303.2.7
401	Task Analysis	401.2.4 401.2.8 401.2.11

These tasks were performed only as necessary to provide the data needed for the Parts Master File.

2.4.3 LSA Data Requirements.

DENRO utilized a LSAR Automated Data Processing (ADP) system Distributed Integrated Logistics Support Analysis (DILSA) to produce the LSAR in hard copy and magnetic media format as required in the statement of work. The DILSA system is compatible to the government validated ADP - System and Logistics Integrated Capability (SLIC) that conforms to MIL-STD-1388-2B. A parts master file has been provided to the government in hard copy and magnetic media format. Included as a part of the Parts Master File is the identification of parts peculiar to support the STVS in accordance with FAA-G-1375c.

2.4.4 Updating and Verification of the LSAR Data Base.

DENRO has established internal procedures for verification of the LSAR documentation. The Government has reviewed the LSA program data.

DENRO will update LSAR documentation to reflect changes in support requirements resulting from:

1.   Changes in equipment design, support, or operational requirements as a result of operational demonstrations, reviews, training, and DENRO or government testing;

2.   Logistics support improvements for deficiencies discovered through test results analysis;

3.   DENRO's verification of LSAR documentation.

2.4.5 Logistics Support Analysis Control Number (LCN).

The LSA Control Number (LCN) structure is based on a hardware generation breakdown of the STVS. At the FAA's direction, each equipment item, from the end item to the LRU was assigned a

unique LCN for each item application throughout the system. The assembly LCN identifies the item's relationship to the next higher assembly. The first indenture (System) level of the LCN structure is three characters, ("TMC"), the second indenture level is one character (to be Determined (TBD)), the third and fourth indenture levels are two characters each (TBD), the fifth, sixth and seventh indenture levels are one character each (TBD). The LCN structure has been approved by the FAA.

The basic LCN applicable to STVS is code: TMC.

CHAPTER 3.0   MAINTENANCE PLANNING

_____

—

This section describes the maintenance concept for the STVS.

3.1   STVS MAINTENANCE CONCEPT

STVS is supported by two levels of maintenance (site and depot).

Site Maintenance: Site maintenance consists of troubleshooting to the failed Line Replaceable Unit (LRU) and elimination of failure through LRU replacement.

Upon STVS site acceptance, site maintenance will be performed by FAA maintenance personnel.

Depot Maintenance: Depot-level maintenance consists of trouble-shooting and repairing failed LRUs to the component level. Depot maintenance will be performed by DENRO for the life cycle of the STVS. The Program Office is responsible for the first two (2) years of depot repair. The FAALC has budgeted for the repair, beginning the third year of service, and is responsible for the remaining life cycle repair.

1)   For the first year after installation, depot maintenance will be provided under the reliability assurance warranty provision of the contract at the contractor's expense, refer to paragraph 4.5. Field personnel can contact DENRO on their hotline number 1-800-952-2509 for service. Field sites need to monitor Government acceptance dates and warranty expiration dates.

2)   After the expiration of the warranty period, field personnel should contact the FAALC for LRU repair, refer to paragraph 4.4.12.

3.2   MAINTENANCE RESPONSIBILITIES

The following paragraphs describe the maintenance allocations for the STVS.

3.2.1   Site Maintenance.

Site maintenance tasks will be limited to:

1) Perform preventive maintenance (PM) as required by the STVS Technical Instruction Book. PM shall be performed no more than once per quarter.

2) Troubleshoot the equipment to identify, remove, and replace faulty LRUs. The mean-time-to-repair (MTTR) for any single maintenance action shall not exceed 30 minutes.

3) Conduct limited removal and replacement of expendable components such as indicator lamps and fuses.

4) Return defective LRUs to the FAALC for sites not under warranty.

3.2.2 AOS-510 Second Level Engineering/Technical Support.

Second Level engineering support and technical assistance will be managed and provided by AOS-510. The support begins when the site is commissioned. Sites should call AOS-510 at the following numbers for technical assistance:

a. (405) 954-0066 (0800-1630 Central Standard Time (CST)), Normal duty hours.
b. (405) 954-3583, After normal duty hours.

AOS will arrange for contractor support, if required.

3.2.3 Depot Maintenance.

DENRO will provide depot level repair for all hardware, firmware, and software for the life cycle of the equipment.

DENRO will perform a system level test on each LRU repaired to ensure that it functions as prescribed by the STVS specification.

CHAPTER 4.0   SUPPLY SUPPORT

This section describes the methodologies and procedures used in acquiring and maintaining spares and repair parts necessary to accomplish STVS maintenance. The STVS supply support system responds to 2 elements, the user sites and depot.

Supplies and material required for support of STVS (single rack and linked system) are stored at both the sites and depot.

1)   Site stock: Spare Line Replacement Units (LRUs) are purchased with the equipment and are maintained as site spares;

2)   Depot Stock: FAALC is the central supply point for STVS support for sites not under warranty. It maintains an exchange and repair (E&R) stock level for LRUs, repair components not authorized at the sites, and backup stock of expendable items.

Sites can order replacement LRUs for the STVS via the FAALC Logistics and Inventory System (LIS).

During non-duty hours, assistance can be obtained from the FAALC priority desk, telephone number (405) 954-4089; telephone device for the deaf (TDD) number (405) 954-0179.

4.1 PROVISIONING SUPPORT

DENRO has provided the following provisioning documentation to the FAA.

a.   Parts master file.
b.   Provisioning technical documentation (PTD). PTD was updated and accepted by the Government. The updated PTD included the linked system.

4.2 STVS PROVISIONING CONFERENCE

DENRO hosted a provisioning conference (SOW paragraph 3.6.3.1) to validate provisioning requirements for depot spares and resolve any supply support problems or issues.

4.2.1 Depot Spares.

Depot spares were ordered after the Provisioning Conference from
DENRO and have been received by the FAALC.

**The linked systems have created requirements for DENRO to update
provisioning documentation. Additional depot spares
requirements for the linked systems were identified and
quantified to the APL for Logistics on 8 August 1997.**

4.3   SITE SPARES

DENRO recommended a site spares list for each STVS site. The
list was reviewed and approved by the Government. The following
list of site spares was procured by the Program Office and
delivered with the STVS System, using F&E funds.

Table 4.3-1, Site Spares List

Nomenclature	NSN	Part Number
Fuse, Cartridge	5920-00-280-4960	F02A250V2A
Fuse, Cartridge	5920-01-147-4903	F02B32V12A
Jack Box	5935-01-408-7567	110824-001
Console, Communication Control	5895-01-407-5076	110393-001
Light Emitting Diode	5980-01-408-7558	220030-004
Light Emitting Diode	5980-01-408-7559	220030-006
Lamp, Incandescent	6240-00-875-7977	388
Circuit Card Assembly	5998-01-407-5704	120578-001
Fuse, Cartridge	5920-00-284-9220	F02B250V1A
Circuit Card Assembly	5935-01-408-7564	120824-001
Circuit Card Assembly	5998-01-407-5707	120825-001
Circuit Card Assembly	5998-01-407-5705	120826-001
Circuit Card Assembly	5998-01-407-5710	120827-001
Circuit Card Assembly	5998-01-407-5711	120828-001
Circuit Card Assembly	5998-01-407-5712	120829-001
Circuit Card Assembly	5998-01-407-5713	120830-001
Microphone, Dynamic	5965-01-167-2259	130003-005
Relay, Electromagnetic	5945-00-881-5537	R10E1Z6V430
Headset-Microphone	5965-01-406-6320	HSB311-2
Handset	5965-01-357-8244	130005-009
Foot Switch	5930-01-408-7577	110023-023

4.4   DISTRIBUTION REPLACEMENT

4.4.1 Warranty Period

~~Routine distribution of LRUs to the operation sites will be by demand. STVS LRUs under the exchange and repair (E&R) program operated by DENRO will provide serviceable replacements to the requesting sites.~~

~~4.4.1 Site Replacement.~~

Under the warranty period and prior to 31 October 1997, sites will replace failed LRUs from site spares and notify DENRO that a unserviceable LRU is being shipped for repair. DENRO will return a serviceable LRU to the site within five (5) working days to be placed in site spares inventory. This procedure remains in effect until the warranty period for that specific site has expired~~. After the warranty period, a similar exchange process takes place where only the sites will send the unserviceable LRU to the FAALC for repair. In some cases, upon proper notification, the site may be directed by the FAALC to return the unserviceable LRU directly to DENRO for repair facility for a replacement.~~ Site personnel should~~can~~ contact DENRO on their Hotline Number, 1-800-952-2502, for service.

4.4.2 Warranty Expiration

After the warranty period, a similar exchange process takes place where only the sites will send the unserviceable LRU to the FAALC for repair. In some cases, upon proper notification, the site may be directed by the FAALC to return the unserviceable LRU directly to DENRO for repair facility for a replacement. Site personnel should contact FAALC Item Manager Ms Robin Stark, AML-641 at (405) 954-9403 during normal work hours CST. During non-duty hours assistance can be obtained from FAALC priority desk, telephone number (405) 954-4088 for service.

4.4.23 Expendable Supplies

Expendable supplies such as fuses, lens, Leeds, etc., may be ordered from the FAALC using standard supply procedures.

4.5 RELIABILITY ASSURANCE (WARRANTY)

DENRO will repair, at no cost to the Government, all hardware, software, and firmware components that become unserviceable during installation and testing of the STVS, and for twelve (12) months after Government acceptance of the STVS system. This includes headsets, handset, microphones, and foot switches that become defective under fair-wear and tear usage, if procured from DENRO. Each replacement component shall meet the requirements of STVS Specification FAA-E-2874.

4.6 MAINTENANCE REPAIR SUPPORT FOR HEADSETS/PERIPHERALS ON VOICE SWITCHING SYSTEMS

Headsets/peripherals were procured by the Product Team and delivered with the STVS System.

Replacement of unserviceable headsets, handsets, and foot switches for the DENRO STVS system will be through the FAALC. A memorandum to this effect, dated June 29, 1998 has been distributed to all concerned personnel (See Appendix H).

Questions should be directed to:

    Robin Stark , AML-641
    405-954-9403
    405-954-95474942 fax

4.7 DISPOSITION OF REPLACED EQUIPMENT AND SUPPORTING SPARES

Leased equipment and spares replaced by the STVS equipment will be removed and disposed of, in accordance with previous between the Government and the lessor.

Government owned equipment and spares replaced by the STVS
equipment will be removed and disposed of, in accordance with
FAA Order 4800.2C and AAF-1 Memorandum, "Disposition Decisions
for Replaced Equipment", dated October 1, 1992.

CHAPTER 5.0   SUPPORT EQUIPMENT

_____
___

This section describes support and test equipment, including all common and special tools, as well as any connectors or other interface devices necessary to connect the support equipment to the end item or the unit under test (UUT).

5.1   TOOLS AND TEST EQUIPMENT

5.1.1 <u>Tools</u>.

The common items of tools and equipment required to support the STVS for site maintenance are listed below:

ITEM	PART NUMBER	QUANTITY
a. Tool Kit, Electronics	Commercial	2
b. ESD Wrist Strap	NSN 5920-01-187-2267	4

5.1.2 <u>Test Equipment</u>.

The items of test equipment required to support the STVS for site maintenance are listed below:

ITEM	PART NUMBER	NSN	QTY
Transmission Test Set	AMERITECH AM-48	6625-01-304-4945	2
Extender Card	DENRO 120696-001	5998-01-385-1052	1
Impedance Matching Test Adapter (IMTA)	DENRO 110311-001	6625-01-381-9333	1
Digital Voltmeter	Fluke Model 87	6625-01-312-2930	1
Pot Adjustment Tool	GC8276	5120-01-121-6184	1
Disk Cleaning Kit, 3.5"	INMAC 7159	7035-01-209-0031	1

The Extender Card and the Impedance Matching Test are delivered with the equipment by the contractor. All other equipment listed should be on site or obtained by the site.

5.2   MAINTENANCE AND CALIBRATION OF TOOLS AND TEST EQUIPMENT

FAA maintenance personnel will ensure that applicable tools and test equipment is calibrated in accordance with calibration schedules prescribed by FAA Order 6200.4D.

Calibration records will be maintained for all test equipment that requires calibration.

5.3 ELECTRICAL PROGRAMMABLE READ ONLY MEMORY (EPROM) BURN-IN CAPABILITIES

The FAA AOS-510 has the capability to burn-in EPROMs. For assistance, sites should contact AOS-510 at (405) 954 0066 normal duty hours CST, after normal duty hours at (405) 954-3583. ~~The FAA AOS is in the process of negotiation with DENRO the contract requirements to enable the maintenance facility to provision the necessary hardware and software to burn-in STVS EPROM's. With this new capability, AOS maintenance facility will be able to burn-in site specific EPROM's. As soon as this contract is in-place, site(s) requesting re-configuring map sets should make their requisition to AOS and not through DENRO.~~

CHAPTER 6.0   TRAINING

_____
___

The purpose of this section is to provide information that describes training requirements of FAA personnel responsible for the maintenance and operation of the STVS. All training requirements and course prerequisites are identified. This training plan contributes to the planning, managing, developing, and conducting the initial training. It serves as the foundation for transition and site-specific training plans.

6.1   AIR TRAFFIC (AT)

Training shall be conducted on site by the contractor, concurrent with equipment installation, and shall consist of 4 hours of instruction for all personnel who will operate the system.

a.   The contractor shall furnish all instructor and student materials for each class. The student shall retain all materials issued to them.

b.   ARN-200 will coordinate training requirements through the Regional Offices approximately two (2) months before training is required.

c.   Attrition training shall be conducted by training staff at each site.

6.2   AIRWAY FACILITIES (AF)

AF training requirements were developed by AHT-400 (now AFZ-100) and coordinated with AMA-410.

6.2.1 Hardware Maintenance Course 48500.

a.   Course length - 12 hours

b.   Taught at site by contract instructors.

c.   Quota is entered into Consolidated Personnel Management Information System (CPMIS) by AFZ-100 approximately 1 month prior to site system deployment.

6.2.2 Attrition Training

a.   STVS Hardware Maintenance, Course Number 40040.

b.   Length - 5 days

c.   Conducted at FAA Academy by Academy Instructors.

Attrition training will be conducted at the FAA Academy and quota is obtained through the "Call For Training".

6.2.3 <u>Prerequisite Training for AF Technicians</u> None

CHAPTER 7.0   DIRECT WORK STAFFING (DWS)

_____
___

This section identifies direct work employee hours required to perform all maintenance activities necessary to maintain the STVS equipment.

The STVS will require electronics technicians experienced in maintaining voice switching systems and computer interfaces. STVS maintenance will be accomplished by cross utilization of personnel maintaining other NAS equipment.

Maintenance staffing levels were derived by AFZ-200 in accordance with Chapter 3, FAA Order 1375.4A and FAA Order 1380.40C. The STVS DWS requirements are presented in Table 7.0-1.

Table 7.0-1, STVS DIRECT WORK REQUIREMENTS

Facility Code	Class	Type	Number of Switching Positions	Maintenance Man Years
48HA	A	1	1-4	0.200
48HA	B	1	5-8 Linked	0.203
48HA	C	1	9-12 Linked	0.206

CHAPTER 8.0   MAINTENANCE SUPPORT FACILITIES

_____
___

This section describes space and facility requirements for
maintenance of the STVS components and storage space for spares
and support equipment.

8.1   CONTRACTOR RESPONSIBILITIES

DENRO is configuring the STVS to fit within existing facilities.
DENRO will notify the Government of any special support facility
requirements identified during the site surveys in the site
survey report.

8.2   GOVERNMENT RESPONSIBILITIES

No special responsibilities have been identified by the
government for providing maintenance support facilities.

CHAPTER 9.0   PACKAGING, HANDLING, STORING, AND TRANSPORTATION (PHS&T)

_____
___

This section describes the PHS&T requirements necessary for support of the STVS.

9.1   PACKAGING AND PACKING

STVS equipment, components, and spares shipped between facilities will be packaged and marked in accordance with ASTM-D-3951 and MIL-E-17555H.

All components and equipment (except spares), designated for FAALC storage will be individually packaged (Level A) and packed (Level C) in accordance with Appendix E, of MIL-E-17555H.

Spares designated for storage at the FAALC shall be packaged Level A, and Packed Level C in accordance with MIL-E-17555H.

Exchange and repair items will be packaged in a reusable container to facilitate round trip shipments between facilities and the repair service.

9.2   HANDLING AND MARKING

All materials designated for storage at the FAALC will be marked in accordance with MIL-STD-129K and MIL-STD-1189. In addition, the exterior of each container shall be marked with the following information.

1.   Serial Number
2.   Part Number
3.   Warranty Expiration Date (if applicable)
4.   Contract Number
5.   Contract Line Item Number
6.   National Stock Number

9.3   STORAGE

In the unlikely event that STVS equipment will require storage, DENRO will give 60 days notice of equipment shipments to the Regions or FAALC. The information should contain the following:

1.   Item Name
2.   National Stock Number (NSN)
3.   Unit Weight
4.   Dimensions
5.   Any special storage requirements
6.   Quantity of units

9.4   TRANSPORTATION

The FAALC using established Department of Transportation (DOT) and FAA guidelines will ship FAALC stored material in the most economical means that provides the required service.

CHAPTER 10.0   TECHNICAL DATA

_____
___

This section discusses the STVS technical documentation to be developed by the contractor and by the government.

10.1 REQUIREMENTS

DENRO has delivered technical data for the STVS in accordance with the contract, MIL-STD-1388-2B, MIL-STD-1561B, FAA-G-1375C, DD Form 1949-1 (LSAR data selection sheet) and DD Form 1949-2 (Provisioning Requirements Statement).

10.2 TECHNICAL MANUALS AND INSTRUCTION BOOKS

The Maintenance Handbook for the STVS system has been developed by AOS-510 for field use; Maintenance of Terminal Air/Ground Communications Facilities; TI 6480.6B, Appendix 36.

DENRO has delivered technical instruction books (TIB Number 6650.42, NSN 0056-00-480-0200). These instruction books will provide a detailed reference source for determining the purpose, physical and functional characteristics, operational capabilities, and limitations of the equipment. The instruction books will include supporting documentation for all revision levels of approved and baseline items and components. The level of detail will enable the technician to identify hardware, software and firmware failures and accomplish all necessary corrective and preventive maintenance.

10.3 QUALITY CONTROL

DENRO maintains a complete Quality Assurance (QA) program in accordance with FAA-STD-013B. DENRO's quality control program plan, will apply to all supplies and services provided during the contractual period.

10.4 LIFE CYCLE PARTS AND SERVICE DATA

A contingency maintenance data package has been provided by DENRO and placed in escrow with a third party agent, in the event that either DENRO or the government terminates the maintenance support contract for the STVS. With the delivery of the contingency maintenance data package, DENRO will also deliver the system-level test bed used in conducting LRU system-level tests to the FAALC.

In the event, that the FAA assumes depot maintenance
responsibility for the STVS, DENRO will provide the FAALC, a
depot maintenance transition plan. The transition plan will
identify all resources to support the STVS.

10.5 CONFIGURATION MANAGEMENT

DENRO has established and maintains a configuration management
program in accordance with FAA-STD-021A. This program will
maintain configuration control of the STVS hardware and
software, as well as supporting equipment. DENRO will identify
a single point of contact responsible for all configuration
management issues. DENRO will provide a Configuration
Management Plan (CMP) which documents the configuration
management responsibilities and program procedures in accordance
with FAA-STD-021A, Appendix I.

A CMP describing procedures for baseline identification and
control, audit and configuration status accounting of hardware,
software, firmware, documentation, and support equipment, will
be provided by the contractor.

The AND-300 Configuration Control Board (CCB) controls the
establishment, and changes to the project hardware and software
baseline during the acquisition phase. After STVS is fully
operational, the configuration management responsibility wills
transition from AND-300 to AOS-510. Subsequently, the approval
authority of all STVS modifications will transition from AND-300
to AOS-510 Second-level Engineering. Configuration management
procedures are presented by FAA Action Notice 1800.8F.

APPENDIX A.   REFERENCES

_____
___

FAA-Action Notice   National Airspace Configuration Management
1800.8F |

FAA-E-2874   STVS Specification Requirement

FAA-G-1375c   Spare Parts-Peculiar for Electronic,
                       Electrical and Mechanical Equipment

FAA Order 1320.48   Engineering Field Support Sector Maintenance
                       Program Procedures

FAA Order 1375.4A   Standard Data Elements and Codes Facility
                       Identification and Supplemental Standards

FAA Order 1380.40C   Airway Facilities Sector Level Staffing
                       Standards System

FAA Order 1800.58A   National Airspace Integrated Logistics Support
                       Policy

FAA Order 4800.2C   Utilization and Disposal of Excess and Surplus
                       Personal Property

FAA Order 6200.4D   Test Equipment Management Handbook

FAA-STD-013B   Quality Control System Requirements

FAA-STD-021A   Configuration Management (Contractual
                       Requirements

ASTM-D-3951   Standard Practice for Commercial Packaging

DD Form 1949-1   LSAR Data Selection Sheet

DD Form 1949-2   Provisioning Requirements Statement

MIL-E-17555H   Electronic and Electrical Equipment
                       Accessories and Provisioned Items (Repair
                       Parts): Packaging of

MIL-STD-129K   Marking for Shipment and Storage

MIL-STD-1189   Standard DOD Bar Code Symbology

MIL-STD-1388-1A	Logistics Support Analysis
MIL-STD-1388-2B	DOD Requirements for Logistic Support Analysis Data Element Record
MIL-STD-1561B	Provisioning Procedures, Uniform Department of Defense
MIL-STD-2073-1	DOD Material Procedures for Development and Application of Packaging Requirements
TI 6480.6B	Maintenance of Terminal Air/Ground Communications Facilities
TIB 6650.42	Technical Instruction Book
AAF-1 Memorandum	Disposition Decisions for Replaced Equipment, dated October 1, 1992
ARN-200 Memorandum	Maintenance Repair Support for Headsets/Peripherals or Voice Switching Systems, dated June 29, 1998

APPENDIX B.   ACRONYMS AND ABBREVIATIONS

—

ADP   Automated Data Processing
AF   Airway Facilities
AFRMT   Airways Facilities Requirements Management Team
A/G   Air-to-Ground
APL   Associate Program Lead for Logistics
APLNI   Associate Program Lead for National Airspace
           Implementation
AT   Air Traffic
ATC   Air Traffic Control
ATCT   Air Traffic Control Tower
ATS   Administrative Telephone Service

CCB   Configuration Control Board
CDRL   Contract Data Requirements List
CLIN   Contract Line Item Number
CMP   Configuration Management Plan
COTR   Contracting Officer's Technical Representative
COTS   Commercial Off-The-Shelf
CPMIS   Consolidated Personnel Management Information System
CST   Central Standard Time

DITCO   Defense Information Technology Contracting Office
DILSA   Distributed Integrated Logistics Support Analysis
DOD   Department of Defense
DOT   Department of Transportation
DRR   Deployment Readiness Review
DWS   Direct Work Staffing

E&R   Exchange and Repair
ECP   Engineering Change Proposal
EDEP   Engineering Data for Provisioning
EPROM   Electrical Programmable Read Only Memory
ESD   Electro Static Discharge
EXCOM   Executive Committee

FAA   Federal Aviation Administration
FAALC   Federal Aviation Administration Logistics Center
FAT   Factory Acceptance Test
F&E   Facilities and Equipment
FCA/PCA   Functional Configuration Audit/Physical Configuration
           Audit

GSIP   Generic Site Implementation Plan
G/G   Ground-to-Ground

ICSS	Integrated Communications Switching System
IFR	Instrument Flight Rules
ILS	Integrated Logistics Support
ILSP	Integrated Logistics Support Plan
IMTA	Impedance Matching Test Adapter
IOM	Installation, Operation, and Maintenance
IPL	Integrated Product Lead
IPT	Integrated Product Team
ISD	In-Service Decision
LCN	Logistics Support Analysis Control Number
LIS	Logistics and Inventory System
LRU	Line Replaceable Unit
LSA	Logistics Support Analysis
LSAR	Logistics Support Analysis Record
MTTR	Mean-Time-To-Repair
NAS	National Airspace System
NDI	Non-Developmental Item
NSN	National Stock Number
OSTS	Operational Support Telephone System
OT&E	Operational Test and Evaluation
PASS	Professional Airway System Specialists
PHS&T	Packaging, Handling, Storing, and Transportation
PIP	Product Implementation Plan
PL	Product Lead
PM	Preventive Maintenance
PRS	Provisioning Requirements Statement
PTD	Provisioning Technical Documentation
QA	Quality Assurance
RAPM	Regional Associate Program Manager
RDVS	Rapid Deployment Voice Switch
SLIC	System and Logistics Integrated Capability
SOW	Statement of Work
STVS	Small Tower Voice Switch
TDD	Telephone Device for the Deaf
TBD	To Be Determined
TRACON	Terminal Radar Approach Control
TVSR	Terminal Voice Switch Replacement
UUT	Unit Under Test
VFR	Visual Flight Rules
VSBP	Voice Switch Bypass

APPENDIX C.   DEFINITION OF TERMS

_____

—

Availability. The probability of specified operability at any instant in time over the service life of the system. It is a ratio of up time to total time.

Corrective Maintenance. Maintenance performed on the system as a result of a failure to restore it to its original operating function, and standard.

Inherent Reliability. The availability of the system for operational use independent of the logistics delay time, administrative delay time, and preventive maintenance downtime.

Line Replaceable Unit (LRU). The lowest unit to be replaced within the system during site maintenance. It is a separately installed, physical package performing a single function or group of closely related functions.

Mean-Time-To-Repair. The MTTR system is equal to the total corrective time to restore a LRU to an operational status, divided by the total corrective actions for a given period of time. It does not include administrative or logistics delay time.

Preventive Maintenance. Scheduled maintenance performed on the system to extend its operational life, reduce failures, and/or realign a system.

APPENDIX D.   DELIVERY SCHEDULE

The attached schedule is the latest STVS systems delivery dates as of revision 005 of this document.

DELIVERY MO/YR	REGION	LOCATION	SITE ID
Jun-93	ASO	Panama City, FL	PFN
Dec-93	FAATC	FAA Technical Center, NJ	FAATC
Dec-93	AEA	Lancaster, PA	LNS
Jan-94	ANM	Tacoma Narrows, WA	TIW
Jan-94	ASW	San Angelo, TX	SJT
Jan-94	ASO	Key West, FL	EYW
Jan-94	ANE	Beverly, MA	BVY
Feb-94	AEA	Wheeling, WV	HLG
Feb-94	AWP	Lancaster, CA	WJF
Feb-94	ANE	Lawrence, MA	LWM
Feb-94	ASW	Santa Fe, NM	SAF
Mar-94	AGL	Bloomington, IN	BMG
Mar-94	AEA	Hagerstown, MD	HGR
Mar-95	AGL	Jackson, MI	JXN
Mar-94	ACE	Olathe-Executive, KS	OJC
Mar-94	ANM	Klamath Falls, OR	LMT
Mar-94	ASO	Jacksonville-Craig, FL	CRG
Mar-94	ANE	Westfield, MA	BAF
Apr-94	ANE	Norwood, MA	OWD
Apr-94	ANM	Ogden, UT	OGD
Apr-94	ASW	Houston-Hooks, TX	DWH
May-94	AEA	Morgantown, WV	MGW
May-94	ANE	Marthas Vineyard, MA	MVY
May-94	AGL	Cleveland-CUY, OH	CGF
May-94	ASO	Meridian-Key, MS	MEI
Jun-94	ANE	New Bedford, MA	EWB
Jun-94	ASW	San Antonio-Stinson, TX	SSF
Jun-94	AGL	Cleveland-Burke, OH	BKL
Jun-94	ASO	Greenville-DTW, SC	GMU
Jul-94	AGL	Kenosha, WI	ENW
Jul-94	AGL	Alton-Civic, IL	ALN
Jul-94	ANM	Olympia, WA	OLM
Jul-94	ASW	Enid, OK	WDG

DELIVERY MO/YR	REGION	LOCATION	SITE ID
Jul-94	ASO	Pompano Beach, FL	PMP
Aug-94	ACE	Salina, KS	SLN
Aug-94	ACE	Topeka-Forbes, KS	FOE
Sep-94	ACE	Columbia, MO	COU
Sep-94	ANE	Nashua, NH	ASH
Sep-94	ASO	Jackson-Hawkins, MS	HKS
Sep-94	ANM	Yakima, WA	YKM
Oct-94	ACE	Hutchinson, KS	HUT
Oct-94	AGL	Janesville, WI	JVL
Oct-94	ACE	Joplin, MO	JLN
Oct-94	FAAAC	FAA Academy, Oklahoma City	FAAAC
Oct-94	ASO	Tuscaloosa, AL	TCL
Nov-94	ACE	St. Joseph, MO	STJ
Nov-94	ASO	Winston Salem, NC	INT
Nov-94	ANE	Lebanon, NH	LEB
Nov-94	AWP	Riverside, CA	RAL
Nov-94	AWP	Saipan	GSN
Dec-94	AGL	Traverse City, MI	TVC
Dec-94	ASW	Alexandria-Esler Field, LA	ESF
Dec-94	AGL	Chicago-Meigs Field, IL	CGX
Dec-94	ANM	ANM Mobile Tower 1	ANM-1
Jan-95	AWP	Oxnard, CA	OXR
Jan-95	AEA	Ithaca-Tomkins, NY	ITH
Feb-95	ASO	Paducah, KY	PAH
Feb-95	AGL	Milwaukee-Timmerman, WI	MWC
Feb-95	AEA	Williamsport, PA	IPT
Feb-95	AWP	Livermore, CA	LVK
Feb-95	AWP	El Monte, CA	EMT
Feb-95	ANM	Lewiston, ID	LWS
Feb-95	ANM	ANM Mobile Tower 2	ANM-2
Feb-95	ANM	ANM Mobile Tower 3	ANM-3
Feb-95	ANM	ANM Mobile Tower 4	ANM-4
Feb-95	ANM	ANM Mobile Tower 5	ANM-5
Feb-95	ANM	ANM Mobile Tower 6	ANM-6
Mar-95	ANM	ANM Mobile Tower 7	ANM-7
Mar-95	ANM	ANM Mobile Tower 8	ANM-8
Mar-95	ACE	Dubuque, IA	DBQ
Mar-95	AWP	Salinas, CA	SNS
Mar-95	AGL	Ann Arbor, MI	ARB
Mar-95	DOD	Molinelli Ft Rucker, AL	DOD
Mar-95	ANM	Twin Falls, ID	TWF
Apr-95	DOD	Skelly Ft. Rucker, AL	DOD

DELIVERY MO/YR	REGION	LOCATION	SITE ID
Apr-95	AGL	Battle Creek, MI	BTL
Apr-95	AGL	Grand Forks, ND	GFK
Apr-95	DOD	Allen Ft. Rucker, AL	DOD
Apr-95	AEA	Charlottesville, VA	CHO
Apr-95	AWP	Palo Alto, CA	PAO
Apr-95	DOD	High Bluff Ft. Rucker, AL	DOD
May 95	DOD	NAS Bermuda	BDA
May 95	DOD	Goldberg Ft. Rucker, AL	DOD
May 95	AWP	Goodyear-Phoenix, AZ	GYR
May 95	DOD	Hunt Ft. Rucker, AL	DOD
May 95	ASW	Wiley Post, OK	PWA
May 95	DOD	Hooper Ft. Rucker, AL	DOD
Jun 95	AWP	Kailua-Kona, Hawaii	KOA
Jun 95	DOD	Lucas, Fort Rucker	DOD
Jun 95	ASW	Laredo, TX	LRD
Jun 95	DOD	Brown, Fort Rucker	DOD
Jun 95	ANM	Salem, OR	SLE
Jun 95	DOD	ECH, Fort Rucker	DOD
Jul 95	AWP	Flagstaff, AZ	FLG
Jul 95	ASO	Hollywood, FL	HWO
Jul 95	ASO	Hollywood, FL	HWO
Jul 95	ACE	Topeka-Billard, KS	TOP
Jul 95	DOD	Runkle Fort Rucker, AL	DOD
Jul 95	DOD	Stinson Fort Rucker, AL	DOD
Aug 95	AWP	Fullerton, CA	FUL
Aug 95	DOD	Toth Fort Rucker, AL	DOD
Aug 95	AWP	San Diego-Brown Field, CA	SDM
Sep 95	ASO	Vero Beach, FL	VRB
Sep 95	ASO	Vero Beach, FL	VRB
Sep 95	ASW	Dallas-Fort Worth ETG Lab	ETG
Sep 95	ASW	Dallas-Fort Worth ETG Lab	ETG
Sep 95	ASW	Dallas-Fort Worth ETG Lab	ETG
Sep 95	AWP	Agana, Guam	GUM
Sep 95	DOD	Forney, Ft. Leonardwood, MO	DOD
Oct 95	AWP	Chico, CA	CIC
Oct 95	AWP	San Carlos, CA	SQL
Oct 95	AWP	Redding, CA	RDD
Oct 95	DOD	Sherman-Ft. Leavenworth, KS	DOD
Oct 95	AGL	Bloomington, IL	BMI
Oct 95	ASO	Warner-Robbins, GA	WRB
Nov 95	ASO	Warner-Robbins, GA	WRB
Nov 95	ASO	Warner-Robbins, GA	WRB
Nov 95	DOD	NAS Moffett Field, CA	DOD
Nov 95	DOD	NAS Moffett Field, CA	DOD

STVS ILSP, REV. 005, 08/98

DELIVERY MO/YR	REGION	LOCATION	SITE ID
Nov 95	ASW	Farmington, NM	FMN
Dec 95	AGL	Fargo, ND	FAR
Dec 95	AGL	Fargo, ND	FAR
Dec 95	AGL	Fargo, ND	FAR
Dec 95	AWP	Palmdale, CA	PMD
Jan 96	DOD	Picacho Peak, AZ	DOD
Jan 96	ANM	Pocatello, ID	PIH
Feb 96	DOD	Ft. A.P. Hill, VA	DOD
Feb 96	AWP	Hilo, Hawaii	ITO
Feb 96	AWP	Hilo, Hawaii	ITO
Feb 96	DOD	Camp Guernsey, WY	DOD
Mar 96	AGL	Sioux Falls, SD	FSD
Mar 96	AGL	Sioux Falls, SD	FSD
Mar 96	AGL	Sioux Falls, SD	FSD
Mar 96	ACE	Cedar Rapids, IA	CID
Mar 96	ACE	Cedar Rapids, IA	CID
Mar 96	ACE	Cedar Rapids, IA	CID
Mar 96	AGL	Duluth, MN	DLH
Mar 96	AGL	Duluth, MN	DLH
Mar 96	ASO	Miami-Opa Locka, FL	OPF
Mar 96	ASO	Miami-Opa Locka, FL	OPF
Mar 96	DOD	RS Miller - Camp Ripley, MN	DOD
Mar 96	AWP	Grand Canyon, AZ	GCN
Apr 96	AWP	Grand Canyon, AZ	GCN
Apr 96	ACE	Omaha-Eppley, NE	OMA
Apr 96	ACE	Omaha-Eppley, NE	OMA
Apr 96	ASO	San J uan, Puerto Rico	SJU
Apr 96	AWP	Sacramento Metro, CA	SMF
Apr 96	ASO	San Juan, Puerto Rico	SJU
Apr 96	AWP	Sacramento Metro, CA	SMF
Apr 96	ANM	Bellingham, WA	BLI
Apr 96	ASW	Ardmore, OK	ADM
Apr 96	AWP	Santa Monica, CA	SMO
May 96	AWP	Santa Monica, CA	SMO
May 96	ASO	Athens,GA	AHN
May 96	DOD	Camp Casey, Korea	DOD
May 96	DOD	Camp Stranton, Korea	DOD
May 96	DOD	Camp Stanley, Korea	DOD
May 96	DOD	Camp Walker, Korea	DOD
May 96	DOD	Yongsan,Korea	DOD
May 96	DOD	Kastner-Camp Zama, Japan	DOD
Jun 96	ASO	Louisville-Bowman,KY	LOU
Jun 96	AWP	Pago Pago, American Samoa	PPG
Jun 96	ASO	Louisville-Bowman,KY	LOU

DELIVERY MO/YR	REGION	LOCATION	SITE ID
Jun 96	ASW	Hobbs,NM	HOB
Jun 96	DOD	Skywatch -Ft.Howard, Panama	DOD
Jun 96	AEA	Lynchburg,VA	LYH
Jun 96	DOD	Skywatch -Ft.Howard, Panama	DOD
Jul 96	AWP	San Diego-Montgomery Field, CA	MYF
Jul 96	AWP	San Diego-Lindbergh,CA	SAN
Jul 96	AWP	Deer Valley,AZ	DVT
Jul 96	AWP	San Diego-Montgomery Field, CA	MYF
Jul 96	AWP	Deer Valley,AZ	DVT
Jul 96	AWP	San Diego-Lindbergh,CA	SAN
Jul 96	AWP	San Diego-Lindbergh,CA	SAN
Jul 96	ASO	Owensboro,KY	OWB
Jul 96	AWP	Carlsbad,CA	CRQ
Aug 96	AWP	Carlsbad,CA	CRQ
Aug 96	AWP	Torrance, CA	TOA
Aug 96	ANE	Worcester, MA	ORH
Aug 96	AWP	Torrance, CA	TOA
Aug 96	ANM	Helena, MT	HLN
Aug 96	ANM	Helena, MT	HLN
Aug 96	ASO	Augusta, GA	AGS
Sep 96	ASO	Augusta, GA	AGS
Sep 96	ASO	Augusta, GA	AGS
Sep 96	ASO	Ft. Lauderdale-Executive	FXE
Sep 96	ASW	Lawton, OK	LAW
Sep 96	ASO	Ft. Lauderdale-Executive	FXE
Sep 96	AWP	Van Nuys, CA	VNY
Sep 96	DOD	Bradshaw AAF, HI	DOD
Sep 96	AWP	Van Nuys, CA	VNY
Sep 96	DOD	Bradshaw AAF, HI	DOD
Sep 96	AWP	Reid-Hillview, CA	RHV
Sep 96	AWP	Guam CERAP	ZUA
Sep 96	AWP	Van Nuys, CA	VNY
Oct 96	AWP	Guam CERAP	ZUA
Oct 96	AWP	Lake Tahoe, LA	TVL
Oct 96	AWP	Guam CERAP	ZUA
Oct 96	ASO	Greenville, MS	GLH
Oct 96	ANM	Redmond, OR	RDM
Nov 96	AEA	Parkerburg, WV	PKB
Nov 96	ACE	Grand Island, NE	GRI
Jan 97	DOD	Suffolk, CO	DOD
Jan 97	DOD	Hagler-Camp Shelby, MS	DOD
Feb 97	AWP	La Verne-Burke, CA	POC
Feb 97	AWP	La Verne-Burke, CA	POC
Feb 97	ANM	Walla Walla, WA	ALW

DELIVERY MO/YR	REGION	LOCATION	SITE ID
Feb 97	AGL	Pontiac, MI	PTK
Feb 97	AGL	Pontiac, MI	PTK
Mar 97	AAL	Talkeetna, AK	TKA
Mar 97	AWP	Oakland North, CA	OAK
Mar 97	AWP	Oakland North, CA	OAK
Mar 97	ANM	Grand Junction, CO	GJT
Apr 97	ASO	Sanford, FL	SFB
Apr 97	ASO	Sanford, FL	SFB
Apr 97	DOD	Grayling-Camp Grayling	DOD
Apr 97	DOD	Grayling-Camp Grayling	DOD
May 97	AEA	Lewisburg, WV	LWB
May 97	ANM	Idaho Falls, ID	IDA
May 97	DOD	Yakima, WA	DOD
Jun 97	ANM	Pendleton, OR	PDT
Jul-97	AGL	Palwaukee,IL	PWK
Jul-97	AGL	Palwaukee, IL	PWK
Sep 97	AAL	Barrow, AK	BRW
Sep 97	AAL	Deadhorse, AK	SCC
Oct 97	DOD	Laguna (Yuma), AZ	LGF
Oct 97	AAL	Homer, AK	HOM
Nov 97	DOD	McCoy, WI	WS20
Nov 97	AAL	Palmer, AK	PAQ
Dec 97	DOD	Troy, AL	TOI
Dec 97	DOD	Troy, AL	TOI
Feb 98	AOS	Oklahoma City, OK	ADO
Feb 98	AOS	Oklahoma City, OK	ADO
Feb 98	AOS	Oklahoma City, OK	ADO
Feb 98	AWP	AWP Mobile ATCT	
Feb 98	DOD	Alexandria, LA	AEX
Feb 98	DOD	Alexandria, LA	AEX
Apr 98	AWP	Mobile Tower/Tracon	
Apr 98	AWP	Mobile Tower/Tracon	
Apr 98	ASO	Mobile, AL	BFM
Apr 98	ASO	Mobile, AL	BFM

APPENDIX E. OPERATIONAL SUPPORT TELEPHONE SYSTEM (OSTS)

TABLE OF CONTENTS

CHAPTER 1. INTRODUCTION

This appendix was developed to provide guidance for integrated logistics support planning and execution of support requirements for the Operational Support Telephone System (OSTS). The OSTS will replace the Administrative Telephone System (ATS) used with the electro-mechanical switch that is being replaced.

The scope of the OSTS is limited to the projects in Terminal Voice Switch Replacement (TVSR) program. These projects include the Integrated Communications Switching System (ICSS), Small Tower Voice Switch (STVS), Rapid Deployment Voice Switch (RDVS) and Enhanced Terminal Voice Switch (ETVS) procurements.

The OSTS will be provided to the sites that meet the following criteria:
a. The site must have a voice switch that is being replaced by the TVSR Program, and;
b. The administrative telephone service at the site will be lost when the existing voice switch equipment is removed.

In addition, "freestanding" telephone systems, i.e., those that are not integrated with the air traffic control switch at a TVSR site, will be considered for replacements if they are unable to provide an interface, e.g., a two wire or "off premises extension" interface, for the TVSR switch.

The exact number of OSTS systems required to support the Federal Aviation Administration (FAA) requirements are to be determined (TBD).

1.1 SYSTEM DESCRIPTION

The OSTS is a commercial-off-the-shelf (COTS) telephone system that provides routine administrative communications service. It interfaces with the operational voice switch to provide supervisory access and serves as a backup for ground-to-ground (G/G) communications. The OSTS has been designed to meet all functional performance requirements throughout a service life of at least 10 years of continuous use.

1.2 CONTRACT MILESTONE

The OSTS contract (7 years), DTFA01-94-C-00026, was awarded to Executone Information Systems, Fairfax, Virginia, on March 14, 1994.

1.3 INTERFACE REQUIREMENTS AND CAPABILITIES

The OSTS has the following interface requirements and functional capabilities:

   a. Accommodates up to 64 stations in addition to trunking requirements;
   b. Multiple access capabilities;
   c. Two wire touch tone capability;
   d. Call hold, intercom calling, and night answer capability;
   e. Caller ID display both internal and (optional) external;
   f. Battery backup and station message detail recording.

CHAPTER 2. LOGISTICS MANAGEMENT

2.1   MAINTENANCE SUPPORT

The contractor will perform all site and depot-level maintenance, beginning with site acceptance and will continue until the contract ends. AOS-100 will identify the source(s) for follow-on maintenance support before the contract expires (Year 2001). While the contract is in force, Executone will maintain a **24-hour toll-free number (1-800-678-9866)** for the Government personnel to use for reporting/logging all trouble reports.

2.1.1 Warranty Repair

Beginning at site acceptance, and for 12 months thereafter, and without charge to the Government, the contractor will correct all failures to equipment and materials furnished by the contractor under the OSTS contract attributed to defects in workmanship. The warranty covers the following (except as noted).

   a. Scope: The contractor will furnish all parts, materials, labor, supporting equipment and services required to perform **warranty services**, and will bear the cost of all incidental expenses (e.g., travel). The Contractor will understand the term **"warranty"** to mean fault localizing and correction (through repair or replacement of parts) of inherent system faults and failures of all equipment furnished under the OSTS contract (including software, peripheral equipment, and cabling).

   b. Response Time: The contractor will ensure that all failures (except those classified as **emergency maintenance**) are corrected by the end of the next business day during which the original trouble report was filed, i.e., between 8:00 AM to 5:00 PM, Government facility local time, Mondays through Fridays, excluding Federal holidays.

   c. Emergency Maintenance. Emergency maintenance is defined as service that is required during evening, weekend, Federal holiday and those hours not currently covered under the maintenance provisions of section 2.1.1.b, "Response Time", above. Emergency maintenance service will be performed in accordance with will all provisions of Section C.3.5, Maintenance, of the OSTS contract.

The response time for a **"Major Outage"** (defined by OSTS Contract Mod 0057 as: "When 50% or more of the OSTS system is inoperable") will be within 3 hours after receipt of an emergency service call. All other Emergency Maintenance requested will be performed by the end of the next day. Should the repair/response take place during regular business hours as described in section 2.1.1.b above, it will not be considered emergency maintenance.

Upon receipt of an emergency service call, the contractor will notify the FAA in order that a Task Order may be initiated. The contractor will invoice the designated Task Order with attached emergency work site Labor Actuals with an additional 15% administrative fee. Parts are not to be invoiced as they are covered under "Maintenance". (Reference OSTS Contract Mod 0046.)

2.1.2   Contractor Maintenance Support

Beginning with the conclusion of the warranty period, the Contractor will provide the following maintenance services for a fixed monthly charge per system as identified in the contract.

a.   Scope: Furnish all parts, materials, labor, supporting equipment and services required to perform site and depot-level maintenance, and bear all incidental expenses (e.g., CONUS travel) related to any site maintenance performed. The Contractor will understand the term **"maintenance"** to mean fault localizing and correction (through repair or replacement of parts) of inherent system faults and failures, as well as preventive maintenance (as may be required), of all equipment furnished under this contract (including software, peripheral equipment, and cabling).

b.   Response Time: Ensure that all failures (except those classified as **emergency maintenance** in section 2.1.2.d below) are corrected by the end of the next business day during which the original trouble report was filed. Business hours are understood to run between 8:00 AM and 5:00 PM, Government facility local time, Mondays through Fridays, excluding Federal holidays. (See Emergency Maintenance)

c.   Repair and Return Service: Offer the following repair and return services for items that can be easily removed and shipped by Government personnel (e.g., station sets, handsets, cords), subject to the following requirements:

1) The contractor will prepay the shipment from the OSTS site and arrange for pickup (e.g., by a commercial parcel

delivery service).

2) The contractor will repair or replace the defective component and ship it back to the site within 18 business hours of receipt.

d. <u>Emergency Maintenance</u>. Emergency maintenance is defined as service that is required during evening, weekend, Federal holidays and those hours not currently covered under the maintenance provisions of section 2.1.2.b, "Response Time", above. Emergency maintenance service will be performed in accordance with will all provisions of Section C.3.5, Maintenance, of the OSTS contract.

The response time for a **"Major Outage"** ("When 50% or more of the OSTS system is inoperable", per contract Mod 0057) will be within 3 hours after receipt of an emergency service call. All other Emergency Maintenance requested will be performed by the end of the next day. If the repair/response take place during regular business hours (section 2.1.2.b above), it will not be considered emergency maintenance.

Upon receipt of an emergency service call, the contractor will notify the FAA in order that a Task Order may be initiated. The contractor will invoice the designated Task Order with attached emergency work site Labor Actuals with an additional 15% administrative fee. Parts are not to be invoiced as they are covered under "Maintenance". (Reference OSTS Contract Mod 0046.)

CHAPTER 3. SUPPORT EQUIPMENT

The contractor will provide any support equipment required.

CHAPTER 4.   TRAINING SUPPORT

The contractor will provide the instructor personnel and the materials required for OSTS training. The training will include the following:

   a.   <u>General orientation and user training</u>. Operate the system to place calls, receive calls, and operate all user-calling features.

   b.   <u>Attendant training</u>. Operate the attendant position utilizing user calling features and all attendant calling features, to place, answer, and direct calls, and to use its special features.

   c.   <u>Administrative support training</u>. Operate all remaining features and capabilities of the system including performing moves and changes, programming call restrictions, collecting call accounting data, responding to alarms, and logging trouble reports.

   d.   <u>Scheduling</u>. Conduct training scheduled by the Government during normal business hours.

   e.   <u>Training Materials</u>. Provide copies of all written training materials to each individual attending the training.

CHAPTER 5. PACKAGING, HANDLING, STORAGE, AND TRANSPORTATION

The contractor will deliver, unpack, and assemble the OSTS equipment; and prepare the wiring for the installation. This includes moving the distribution station equipment to its intended location within the facility, and setting up and connecting the optional OSTS equipment features ordered.

The contractor will remove from the facility and dispose of all packing material and debris associated with the OSTS installation, warranty, and maintenance activities.

CHAPTER 6.   DOCUMENTATION

6.1   USER'S GUIDE

The contractor will deliver a User's Guide to each site. The Guide provides detailed information for using the multi-button telephone, describes how to use the OSTS system to initiate and receive calls, and provides instructions on how to activate call features.

6.2   PROGRAMMING AND MAINTENANCE GUIDE

The contractor will also deliver a Programming and Maintenance Guide to each site. The Guide provides detailed information for programming the OSTS administrative terminal.

6.3   REPRODUCTION

The OSTS contract allows the Government to reproduce (e.g., photocopy) OSTS documentation freely and without restriction. OSTS sites requiring additional copies of the Guides should reproduce them locally.

CHAPTER 7. DISPLACED EQUIPMENT AND SUPPORTING SPARES

Leased equipment and spares displaced by the OSTS equipment will be removed and disposed of in accordance with previous agreements between the Government and the leaseholder.

The Government is responsible for removing all existing telephone equipment. Government owned equipment and spares displaced by the OSTS will be removed and disposed of in accordance with FAA Order 4800.2C and AAF-1 Memorandum, "Disposition Decisions for Replaced Equipments", dated October 1, 1992.

APPENDIX F. VOICE SWITCH BYPASS (VSBP)

TABLE OF CONTENTS

CHAPTER 1.   INTRODUCTION

This appendix was developed to provide guidance for integrated logistics support planning and execution of support requirements for the Voice Switch Bypass (VSBP).

The scope of the VSBP project is limited to the projects in the Terminal Voice Switch Replacement (TVSR) program. The TVSR projects include the Integrated Communications Switching System (ICSS), Small Tower Voice Switch (STVS), Rapid Deployment Voice Switch (RDVS) and Enhanced Terminal Voice Switch (ETVS) systems.

1.1   SYSTEM DESCRIPTION

The VSBP provides air traffic control (ATC) facilities with EMERGENCY access to and control over Government-furnished very high frequency (VHF) and ultra high frequency (UHF) radio receiver/transmitters and associated signaling systems. The air-to-ground (A/G) connectivity provide via the VSBP enables air traffic controllers to establish and maintain communications with aircraft.

The VSBP will be installed in FAA terminal radar approach control (TRACON) and air traffic control tower (ATCT) facilities that operate under instrument flight rules (IFRs). Within these facilities, designated air traffic control (ATC) positions equipped with a VSBP jackbox will be provided an emergency A/G communications capability in the event of an ICSS, STVS, RDVS, and or ETVS switch failure.

1.2   PROJECT MILESTONES

VSBP logistics milestones are shown in Table 1.5-1.

TABLE 1.5-1   MILESTONES

Event	Date
Statement of Work (SOW) Preparation	January-April 1995
PASS Union Briefed	July 20, 1995
Contract DTFA01-95-Y-01014 , Awarded to DME Corporation, Ft. Lauderdale, FL	August 23, 1995

Logistics & Training Guidance Conferences	September 1995
OT&E/Shakedown Test	February-April 1996
FCA/PCA	March 1996
First Production Unit Delivered to Chicago (O'Hare)	June 1996
DRR EXCOM	June 20, 1996

CHAPTER 2. LOGISTICS MANAGEMENT

The FAA Logistics Center (FAALC) is responsible for managing the supply and maintenance support program for the VSBP. FAALC has assigned an Item Manager for the VSBP project who is also responsible for managing the VSBP Warranty program. Warranty claims and questions should be directed to the Item Manager.

The FAALC Item Manager for the VSBP is Ms Robin Stark, AML-641. Ms. Stark can be reached at (405) 954-9403, during the hours of 0800 to 1630 CST. During non-duty hours, assistance can be obtained from the FAALC priority desk, telephone number (405) 954-4088; telephone device for the deaf (TDD) number (405) 954-0179.

Sites can also order replacement LRUs via the FAALC Logistics and Inventory System (LIS).

CHAPTER 3. MAINTENANCE PLANNING

Since the VSBP will be used with and operate in conjunction with the ICSS, STVS, RDVS, and ETVS systems, ARN-200 has determined that the established and approved support concepts in the appropriate voice switching system ILSP (i.e., ICSS, STVS, RDVS, ETVS) will apply to the VSBP.

3.1 VSBP MAINTENANCE CONCEPT

The VSBP will be supported by two levels of maintenance: site/field and depot maintenance.

    a.   Site/field maintenance consists of the AF technician isolating the failure to the line replaceable unit (LRU) and replacing the failed item with a serviceable LRU.

    b.   Depot maintenance consists of FAALC repair (through the use of a contractor repair service or in-house resources) of faulty LRUs.

3.2 SECOND LEVEL ENGINEERING SUPPORT

When required, AOS-510 will obtain contractor technical assistance via the technical assistance options available in the VSBP contract.

3.3 WARRANTY PROGRAM

The Tellabs components used in the VSBP are covered by a 5 year Tellabs warranty. The VSBP components manufactured by DME, e.g., jackbox, backplane, cables are covered by a 3 year DME warranty. Warranty claims/questions should be directed to the Item Manager. (See Chapter 2, above.)

CHAPTER 4. SUPPLY SUPPORT

FAALC will be responsible for providing supply support for the VSBP life cycle. Since the VSBP consist of a small number of LRUs, FAALC conducted an in-house mini-provisioning conference. Based on the results of the conference, FAALC cataloged the spares and AND-320/ASU-330 ordered the spares. FAALC has received the depot spares.

Sites can order replacement LRUs for the VSBP via the FAALC Logistics and Inventory System (LIS).

During non-duty hours, assistance can be obtained from the FAALC priority desk, telephone number (405) 954-4088; telephone device for the deaf (TDD) number (405) 954-0179.

CHAPTER 5. SUPPORT EQUIPMENT

No special tools and test equipment are required to support the VSBP.
Common tools and test equipment used to repair voice switching
systems will be used to support the VSBP.

CHAPTER 6. TRAINING

6.1 GENERAL INFORMATION

A training video tape for VSBP training will be delivered with the VSBP equipment. Air Traffic (AT) and Airway Facilities (AF) personnel will be trained using the training video. The video is divided into two parts. Part I describes the overall VSBP operation and demonstrates all of the VSBP functions. Part II provides information on isolating VSBP faults to the LRU level and demonstrates the corrective actions or alignments required to restore the system to service.

6.2 TRAINING OUTCOMES

After viewing the video and using the procedures described in the video and the Installation, Operation, and Maintenance (IOM) manual, the student will have knowledge of and be able to:

   a. Operate the VSBP switch equipment;

   b. Perform fault isolation, corrective maintenance and alignment(s) to restore the equipment performance to the parameters specified in the contract.

6.3 ATTRITION TRAINING

The sites are responsible for the initial and attrition VSBP.

CHAPTER 7. PACKAGING, HANDLING, STORAGE, AND TRANSPORTATION

DME will comply with all the packaging, handling, storage, and transportation (PHS&T) requirements specified in ASTM-D-3951, Standard Practices for Commercial Packaging; MIL-STD 2073-1, DOD Material Procedures for Development and Application of Packaging Requirements; and MIL-STD 129L, Marking for Shipment and Storage.

Sites and the contractor will use the established FAA guidelines for shipping and transporting LRUs by the most economical means available.

CHAPTER 8. TECHNICAL DATA

8.1 INSTALLATION, OPERATION, AND MAINTENANCE (IOM) MANUAL

DME will deliver an IOM manual and an FAA Air Traffic Operations
Concept document with each VSBP. The manual contains instructions
and procedures for the installation, operation, and maintenance of
the VSBP hardware and includes data and commercial drawings on all
non-developmental items (NDI) and custom built items. The level of
detail contained in the manual enables AT operators/supervisors to
operate the VSBP and AF technicians to identify, isolate and correct
hardware failures to the LRU level.

AOS-510 is the Government proponent for the IOM manual.

8.2 LIFE CYCLE PARTS AND SERVICE DATA

DME will deliver to the Government a complete set of technical data
and documentation with updates as they are generated, including
proprietary information on custom built items, which will enable the
Government to assume full maintenance and technical support of the
VSBP system equipment.

8.3 COPYRIGHT

The contractor delivers all VSBP data without restrictive legend(s)
and the Government has the right to reproduce any of the data.

CHAPTER 9. DISPOSITION OF DISPLACED EQUIPMENT AND SUPPORTING SPARES

Since the VSBP is not replacing any equipment, a disposal plan is not required.

APPENDIX G. POINTS OF CONTACT LIST

_____
___

WASHINGTON HEADQUARTERS PERSONNEL

- -	AND-320, IPT Stephen Dash Martin Robinson	(202) ~~358-5041~~493-4781 (202) ~~358-5048~~493-4802
- - - -	ARN-200.3, APL for Logistics George Clark Susan Hedenberg, AT Requirements Bill Howard, ARN-200.6, AF Requirements Kathie Collison, NISC	(202) ~~493-4789~~493-4789 (202) 493-4793 (202) 493-0707 (202) 646-5737
- -	ACT-340C, FAA Technical Center Tom Culp Mike Dow, COMTAC	(609) 485-4396 (609) 485-7084
- -	AFZ-100, AF Training Dan Hargraves Robert Stafford, NISC	(202) 267-3044 (202) 646-5832
-	ANS-700, APL NAS Implementation Vinold Bhatnagar	(202) ~~358-5067~~493-4783
-	AOP-500, Vintage Switch Program Michael Sullivan	(202) 267-3061
- -	ASU-330, Contracting Officer Jim Blades Bob Perry, CEXEC	(202) ~~358-5038~~493-4785 (202) 554-4530 X102

MIKE MONRONEY AERONAUTICAL CENTER (MMAC) PERSONNEL

– –	AMP-1A, MMAC Kenneth Frengs C. R. Blankenship, NISC	(405) 954-8537 (405) 954-8574
–	FAA Logistics Center AML-641, Integrated Products Management Regina West	(405) 954-5627
– – – –	FAA Academy AMA-410, AF Training Mike McKenzie AMA-551, AT Training Lee Nichols Ron Ward ATX-100, Air Traffic Training Mike Coffelt	(405) 954-3631 (405) 954-8150 (405) 954-8151 (405) 954-0786
– –	AOS-510 2nd Level Engineering Support Galen Voth Don A. Smith AOS-510 Hotline: (405) 954-0066 (0800-1630 CST, weekdays) (405) 954-3583 (1630-0800, CST, evenings, weekends, holidays)	(405) 954-8483 (405) 954-0284

REGIONAL ASSOCIATE PROGRAM MANAGERS (RAPMs)

- - 	AAL-421, Alaska Region Mel Leskinen Caren Dougherty, NISC Bob Carter, NISC	(907) 271-5199 (907) 271-4739 (907) 271-5312
-	ACE-424E, Central Region Doug Edwards	(816) 426-2242
- -	AEA-453, Eastern Region Steve Loverde Willie Hunter	(718) 553-3469 (718) 553-4900
- -	AGL-459.1, Great Lakes Region Neil Angelotti Angel Cuadrado	(847) 294-7584 (708847) 294-8443
-	ANE-422, New England Region Ed Davis	(617781) 238-7435
-	ANM-450E2, Northwest Mountain Region Mark Stack	(206425) 227-2435
- - - -	ASO-458C, Southern Region Dave Anderson, Acting RAPM Carmel Leese, (AT) Larry Adornato, (F&E Engineer) Mike Sloat, (AT)	(404) 305-6421 (404) 305-5544 (404) 305-6291 (404) 304-5543
- -	ASW-421.3, Southwest Region Anna Gonzalez Rich Anderson, NISC	(817) 222-4213 (817) 222-4215
-	AWP-455.43, Western Pacific Region Gary Pettengill	(310) 725-3495

EQUIPMENT CONTRACTORS

	DENRO	
-	Chris Turner	(301)840-1597 x286
-	Dan Roth	(301)840-1597 x272
-	Bob Neurath	(301)869-1628
-	Robert Matthews, Training	(301)840-1597
	DME Corporation Personnel (VSBP)	
-	Reception	(301) 975-2100
-	Rick Clingan	(301) 975-2188
-	Ron Driest, FAA QRO	(301) 975-2260
	EXECUTONE INFORMATION SYSTEMS (OSTS)	
-	Hotline:	1-800-678-9866

APPENDIX H. MAINTENANCE REPAIR SUPPORT FOR HEADSETS/PERIPHERALS

_

Attached is the memo that provides the instructions for maintenance repair support for headsets and peripherals on the voice switching systems.

Memorandum

Subject: <u>ACTION</u>: Maintenance Repair
Support for Headsets/Peripherals
on Voice Switching Systems

Date:

From: Manager, Communications and
Navigation Division, ARN-200

Reply to
Attn. of:

To: Distribution

Below are updated procedures regarding maintenance, repair, and
support of the voice switch headsets and peripheral equipment.
These procedures apply only to the below referenced voice
switching systems that have been procured and/or managed by the
Voice Switching and Recording Product Team, AND-320. This
memorandum supersedes all previous direction provided regarding
this issue.

If the type and manufacturer of the voice switch requiring
support is not listed below, refer to your regional
resources for instructions regarding support procedures. In
all likelihood, a regional or local support contract is in
effect.

Directions: Please identify the type and manufacturer of
the voice switch at the facility requiring field support for
headsets and/or peripheral equipment. Then reference the
depicted support source in the adjacent column.

Type and Manufacturer of Voice Switch	Support Source
Litton Type II ICSS	Litton-Amecom
Litton Type III ICSS	Litton-Amecom
Litton RDVS I or II	FAA Logistics Center
Litton RDVS IIA	FAA Logistics Center
Denro Type I ICSS	Denro
Denro Type III ICSS	FAA Logistics Center
Denro Model 466 ICSS (purchased GSA)	Denro

Denro Model 400 ICSS (purchased GSA)	FAA Logistics Center
Denro RDVS I	FAA Logistics Center
Denro RDVS II	FAA Logistics Center
Denro STVS	Denro (for 1 year from installation)
Denro STVS	FAA Logistics Center (after 1 year from installation)
Denro ETVS	FAA Logistics Center

Contact telephone numbers:
- Litton-Amecom   1-800-847-7790
- Denro   1-800-952-2502
- FAA Logistics Center   1-405-954-7649

 If you have any questions, please contact Mr. George Clark, ARN-200.3 at 202-493-4789.

//s//6/29/98

Janis E. Hooten

Distribution:
AAL-400/500
ACE-400/500
AEA-400/500
AGL-400/500
AMA-400/500
AML-200/600
AND-320
ANE-400/500
ANM-400/500
ASO-400/500
ASW-400/500
ATO-100/400
AWP-400/500

File:

WP: ARN-200\HDST

ARN-200.3:George clark:pb:493-0643:6/22/98